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Philip E. Levy, Esq.
Metz Lewis LLC
18th Floor
11 Stanwix Street
Pittsburgh, PA 15222

EXAMINER	
RAJAN, KAI	

ART UNIT	PAPER NUMBER
3736	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/682,293	TELLER ET AL.	
	Examiner	Art Unit	
	Kai Rajan	3736	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 May 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 - 170* is/are pending in the application.

4a) Of the above claim(s) *2, 23, 26, 97 – 99, 120, 123, and 139 – 170* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *See Continuation Sheet* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *See Continuation Sheet*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Continuation of Disposition of Claims: Claims rejected are 1, 3 - 22, 24, 25, 27 - 29, 30 - 34, 40 - 44, 96, 98, 100 - 119, 121, 122, and 124 - 138.

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :1/14/2004, 1/20/2004, 12/21/2005, 12/27/2005, 4/27/2005, 11/08/2006, 9/27/2007, 12/19/2007, 1/09/2008, 3/11/2008, 7/17/2008.

DETAILED ACTION

Examiner acknowledges the response filed May 12, 2008.

Election/Restrictions

Claims 2, 23, 26, 97 – 99, 120, 123, and 139 – 170 stand withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to nonelected inventions and species, there being no allowable generic or linking claim. Election was made with traverse in the reply filed on May 12, 2008 on the grounds that claim 139 was included in two groups defined by the Examiner. However, upon further review by Applicant and Examiner and during a phone conversation on June 24, 2008, claim 139 was found to be drawn to a nonelected invention, and the phone election was made without further traverse. Therefore, claims 1, 3 – 22, 24, 25, 27 – 29, 30 – 34, 40 – 44, 96, 98, 100 – 119, 121, 122, and 124 – 138 are examined on the merits, as addressed below.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 3, 4, 6, 7, 11, 16, 103, 108, 109, and 110 are rejected under 35 U.S.C. 101 because a claim to software, program, instructions, code, data structure, or a signal that does not recite a tangible computer readable medium is non-statutory subject matter. See MPEP 2106 IV B 1 (a).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 3, 4, 6, 7, 11 – 22, 24, 25, 27, 28, 30, 31, 35 – 44, 96 – 101, 104, 105, 110 – 116, 118 – 125, 127, 128, 133 – 136, and 138 are rejected under 35 U.S.C. 102(b) as being anticipated by Mault et al. U.S. PGPub No. 2002/0027164, cited by Applicant.

1. An apparatus for measuring a state parameter of an individual, comprising a processor;

at least two sensors in electronic communication with said processor, at least one of said sensors being a physiological sensor (Figure 4 items 41, 42, 43, 45); and

a memory storing software executable by said processor, said software including instructions for:

collecting a plurality of sensor signals from said at least two sensors (Paragraphs 0039 – 0050); and

utilizing a first set of signals based on one or more of said plurality of sensor signals in a first function, said first function determining how a second set of signals based on one or more of

said plurality of sensor signals is utilized in one or more second functions, each of said one or more second functions having an output (Paragraphs 0039 – 0051),

wherein one or more of said outputs are used to predict said state parameter of said individual (Paragraphs 0039 – 0051).

3. An apparatus according to claim 1, wherein said first function recognizes each of a plurality of contexts based on said first set of signals, wherein each of said one or more second functions corresponds to one of said contexts, wherein said first function assigns a weight to each of said one or more second functions based on a recognition probability associated with the corresponding context, and wherein said outputs of said one or more second functions and said weights are used to predict said state parameter of said individual (Paragraphs 0039 – 0051).

4. An apparatus according to claim 1, said instructions further comprising combining said outputs in a post processing step to predict said state parameter (Paragraphs 0068 – 0075, 0083 – 0097).

6. An apparatus according to claim 3, wherein said state parameter is caloric expenditure of said individual (Paragraphs 0068 – 0075, 0083 – 0097).

7. An apparatus according to claim 6, wherein said contexts comprise rest and active (Paragraphs 0068 – 0075, 0083 – 0097).

11. An apparatus according to claim 1, wherein said state parameter is caloric expenditure of said individual for a period of time, said instructions further comprising generating caloric consumption data for said individual for said period of time and displaying information based on said caloric expenditure data and said caloric consumption data (Paragraphs 0068 – 0075, 0083 – 0097).

12. An apparatus according to claim 11, said caloric consumption data being generated from information collected from said individual relating to foods eaten by said individual (Paragraphs 0068 – 0075, 0083 – 0097).

13. An apparatus according to claim 11, wherein said displayed information includes energy balance data (Paragraphs 0068 – 0075, 0083 – 0097).

14. An apparatus according to claim 11, wherein said displayed information includes a rate of weight loss or gain of said individual (Paragraphs 0068 – 0075, 0083 – 0097).

15. An apparatus according to claim 11, wherein said displayed information includes information relating to one or more goals of said individual, said goals relating to one or more of caloric consumption, caloric expenditure, energy balance and rate of weight loss or gain (Paragraphs 0068 – 0075, 0083 – 0097).

16. An apparatus according to claim 3, wherein said state parameter is caloric expenditure of said individual for a period of time, said instructions further comprising generating caloric consumption data for said individual for said period of time and displaying information based on said caloric expenditure data and said caloric consumption data (Paragraphs 0068 – 0075, 0083 – 0097).

17. An apparatus according to claim 16, said caloric consumption data being generated from information collected from said individual relating to foods eaten by said individual (Paragraphs 0068 – 0075, 0083 – 0097).

18. An apparatus according to claim 16, wherein said displayed information includes energy balance data (Paragraphs 0068 – 0075, 0083 – 0097).

19. An apparatus according to claim 16, wherein said displayed information includes a rate of weight loss or gain of said individual (Paragraphs 0068 – 0075, 0083 – 0097).

20. An apparatus according to claim 16, wherein said displayed information includes information relating to one or more goals of said individual, said goals relating to one or more of caloric consumption, caloric expenditure, energy balance and rate of weight loss or gain (Paragraphs 0068 – 0075, 0083 – 0097).

21. An apparatus according to claim 1, said processor and memory being included in a wearable sensor device (Paragraphs 0068 – 0075, 0083 – 0097).

22. An apparatus according to claim 21, said at least two sensors being included in said wearable sensor device (Paragraphs 0068 – 0075, 0083 – 0097, figure 4 items 41, 42, 43, 45).

24. An apparatus according to claim 1, said apparatus including a wearable sensor device, said processor and said memory being included in a computing device located separately from said sensor device, said collecting instruction including receiving said sensor signals with said sensor device and transmitting said sensor signals from said sensor device to said computing device (Paragraphs 0068 – 0075, 0083 – 0097, figure 4 items 41, 42, 43, 45).

25. A method of measuring a state parameter of an individual, comprising:

collecting a plurality of sensor signals from at least two sensors in electronic communication with a sensor device worn on a body of said individual, at least one of said sensors being a physiological sensor (Paragraphs 0068 – 0075, 0083 – 0097, figure 4 items 41, 42, 43, 45); and

utilizing a first set of signals based on one or more of said plurality of sensor signals in a first function, said first function determining how a second set of signals based on one or more of said plurality of sensor signals is utilized in one or more second functions, each of said one or more second functions having an output (Paragraphs 0039 – 0051),

wherein one or more of said outputs are used to predict said state parameter of said individual (Paragraphs 0039 – 0051).

27. A method according to claim 25, wherein said first function recognizes each of a plurality of contexts based on said first set of signals, wherein each of said one or more second functions corresponds to one of said contexts, wherein said first function assigns a weight to each of said one or more second functions based on a recognition probability associated with the corresponding context, and wherein said outputs of said one or more second functions and said weights are used to predict said state parameter of said individual (Paragraphs 0039 – 0051).

28. A method according to claim 25, further comprising combining said outputs in a post processing step to predict said state parameter (Paragraphs 0068 – 0075, 0083 – 0097).

30. A method according to claim 27, wherein said state parameter is caloric expenditure of said individual (Paragraphs 0068 – 0075, 0083 – 0097).

31. A method according to claim 30, wherein said contexts comprise rest and active (Paragraphs 0068 – 0075, 0083 – 0097).

35. A method according to claim 25, wherein said state parameter is caloric expenditure of said individual for a period of time, said method further comprising generating caloric consumption data for said individual for said period of time and displaying information based on

said caloric expenditure data and said caloric consumption data (Paragraphs 0068 – 0075, 0083 – 0097).

36. A method according to claim 35, said caloric consumption data being generated from information collected from said individual relating to foods eaten by said individual (Paragraphs 0068 – 0075, 0083 – 0097).

37. A method according to claim 35, wherein said displayed information includes energy balance data (Paragraphs 0068 – 0075, 0083 – 0097).

38. A method according to claim 35, wherein said displayed information includes a rate of weight loss or gain of said individual (Paragraphs 0068 – 0075, 0083 – 0097).

39. A method according to claim 35, wherein said displayed information includes information relating to one or more goals of said individual, said goals relating to one or more of caloric consumption, caloric expenditure, energy balance and rate of weight loss or gain (Paragraphs 0068 – 0075, 0083 – 0097).

40. A method according to claim 27, wherein said state parameter is caloric expenditure of said individual for a period of time, said method further comprising generating caloric consumption data for said individual for said period of time and displaying information 5 based

on said caloric expenditure data and said caloric consumption data (Paragraphs 0068 – 0075, 0083 – 0097).

41. A method according to claim 40, said caloric consumption data being generated from information collected from said individual relating to foods eaten by said individual (Paragraphs 0068 – 0075, 0083 – 0097).

42. A method according to claim 40, wherein said displayed information includes energy balance data (Paragraphs 0068 – 0075, 0083 – 0097).

43. A method according to claim 40, wherein said displayed information includes a rate of weight loss or gain of said individual (Paragraphs 0068 – 0075, 0083 – 0097).

44. A method according to claim 40, wherein said displayed information includes information relating to one or more goals of said individual, said goals relating to one or more of caloric consumption, caloric expenditure, energy balance and rate of weight loss or gain (Paragraphs 0068 – 0075, 0083 – 0097).

96. An apparatus for automatically measuring a first state parameter of an individual, comprising

a processor (Paragraphs 0039 – 0051);

one or more sensors for generating one or more signals over a period of time, said processor receiving said one or more signals (Figure 4 items 41, 42, 43, 45); and

a memory storing software executable by said processor, said software including instructions for:

inputting one or more signal channels based on said one or more signals into a first function having a first output that predicts one or more second state parameters of said individual and either said first state parameter or an indicator of said first state parameter, wherein said first state parameter may be obtained from said indicator based on a first relationship between said first state parameter and said indicator (Paragraphs 0039 – 0051);

inputting said one or more signal channels into a second function having a second output that predicts said one or more second state parameters but not said first state parameter or said indicator of said first state parameter (Paragraphs 0039 – 0051); and

obtaining either said first state parameter or said indicator from said first and second outputs based on a second relationship between said first function and said second function, and, if said indicator is obtained, obtaining said first state parameter from said indicator based on said first relationship (Paragraphs 0039 – 0051).

97. An apparatus according to claim 96, said processor and said memory being included in a wearable sensor device (Paragraphs 0039 – 0051).

98. An apparatus according to claim 97, said one or more sensors being included in said wearable sensor device (Paragraphs 0068 – 0075, 0083 – 0097).

99. An apparatus according to claim 97, at least one of said one or more sensors being located separately from said wearable sensor device (Paragraphs 0068 – 0075, 0083 – 0097).

100. An apparatus according to claim 96, said apparatus including a wearable sensor device receiving said one or more signals, said processor and said memory being included in a computing device located separately from said sensor device, said one or more signals being transmitted from said sensor device to said computing device (Paragraphs 0068 – 0075, 0083 – 0097).

101. An apparatus according to claim 96, said one or more sensors comprising at least two sensors and said one or more signals comprising of at least two signals (Paragraphs 0068 – 0075, 0083 – 0097).

104. An apparatus according to claim 96, said first state parameter comprising a number of calories consumed by said individual during said period of time (Paragraphs 0068 – 0075, 0083 – 0097).

105. An apparatus according to claim 104, said indicator comprising a first effect on the body of food consumed (Paragraphs 0068 – 0075, 0083 – 0097).

110. An apparatus according to claim 104, said software further including instructions for generating caloric expenditure data for said individual for said period of time from one or more of said one or more signal channels and displaying information based on said caloric expenditure data and said number of calories consumed by said individual (Paragraphs 0068 – 0075, 0083 – 0097).

111. An apparatus according to claim 110, said apparatus further comprising a display, said instruction for displaying comprising displaying said information based on said calorie expenditure data and said number of calories consumed by said individual on said display (Paragraphs 0068 – 0075, 0083 – 0097).

112. An apparatus according to claim 111, said display being part of a wearable sensor device housing said processor and said memory (Paragraphs 0068 – 0075, 0083 – 0097).

113. An apparatus according to claim 111, said display being part of an I/O device located separately from a wearable sensor device housing said processor and said memory, wherein said information based on said caloric expenditure data and said number of calories consumed by said individual is communicated from said processor to said I/O device (Paragraphs 0068 – 0075, 0083 – 0097).

114. An apparatus according to claim 110, wherein said displayed information includes energy balance data (Paragraphs 0068 – 0075, 0083 – 0097).

115. An apparatus according to claim 110, wherein said displayed information includes a rate of weight loss or gain of said individual (Paragraphs 0068 – 0075, 0083 – 0097).

116. An apparatus according to claim 110, wherein said displayed information includes information relating to one or more goals of said individual, said goals relating to one or more of caloric consumption, caloric expenditure, energy balance and rate of weight loss or gain (Paragraphs 0068 – 0075, 0083 – 0097).

118. An apparatus according to claim 96, said one or more sensors selected from the group consisting of physiological sensors and contextual sensors (Paragraphs 0068 – 0075, 0083 – 0097).

119. A method of automatically measuring a first state parameter of an individual, comprising:

collecting for a period of time one or more signals from one or more sensors in electronic communication with a sensor device worn on a body of said individual (Paragraphs 0039 – 0050);

inputting one or more signal channels based on said one or more signals into a first function having a first output that predicts one or more second state parameters of said individual and either said first state parameter or an indicator of said first state parameter, wherein said first

state parameter may be obtained from said indicator based on a first relationship between said first state parameter and said indicator (Paragraphs 0039 – 0050);

inputting said one or more signal channels into a second function having a second output that predicts said one or more second state parameters but not said first state parameter or said indicator of said first state parameter (Paragraphs 0039 – 0050); and

obtaining either said first state parameter or said indicator from said first and second outputs based on a second relationship between said first function and said second function, and, if said indicator is obtained, obtaining said first state parameter from said indicator based on said first relationship (Paragraphs 0039 – 0050).

120. A method according to claim 119, wherein said inputting and obtaining steps are performed by a processor included in said sensor device (Paragraphs 0039 – 0050).

121. A method according to claim 119, wherein said inputting and obtaining steps are performed by a processor included in a computing device located separately from said sensor device, said method further comprising transmitting said one or more signals to said computing device (Paragraphs 0068 – 0075, 0083 – 0097).

122. A method according to claim 119, said one or more sensors being included in said sensor device (Paragraphs 0068 – 0075, 0083 – 0097).

123. A method according to claim 119, at least one of said one or more sensors being located separately from said sensor device (Paragraphs 0068 – 0075, 0083 – 0097).

124. A method according to claim 119, said one or more sensors comprising at least two sensors and said one or more signals comprising of at least two signals (Paragraphs 0068 – 0075, 0083 – 0097).

125. A method according to claim 119, said second relationship comprising a subtractive relationship (Paragraphs 0068 – 0075, 0083 – 0097).

127. A method according to claim 119, said first state parameter comprising a number of calories consumed by said individual during said period of time (Paragraphs 0068 – 0075, 0083 – 0097).

128. A method according to claim 127, said indicator comprising a first effect on the body of food consumed (Paragraphs 0068 – 0075, 0083 – 0097).

133. A method according to claim 127, said method further comprising generating caloric expenditure data for said individual for said period of time from one or more of said one or more signal channels and displaying information based on said caloric expenditure data and said number of calories consumed by said individual (Paragraphs 0068 – 0075, 0083 – 0097).

134. A method according to claim 133, wherein said displayed information includes energy balance data (Paragraphs 0068 – 0075, 0083 – 0097).

135. A method according to claim 133, wherein said displayed information includes a rate of weight loss or gain of said individual (Paragraphs 0068 – 0075, 0083 – 0097).

136. A method according to claim 133, wherein said displayed information includes information relating to one or more goals of said individual, said goals relating to one or more of caloric consumption, caloric expenditure, energy balance and rate of weight loss or gain (Paragraphs 0068 – 0075, 0083 – 0097).

138. A method according to claim 119, said one or more sensors selected from the group consisting of physiological sensors and contextual sensors (Paragraphs 0068 – 0075, 0083 – 0097).

Claims 1, 3, 5 – 7, 9, 10, 25, 27, 29 – 31, 33, 34, 96, 104, 117, 119, 127, and 128 are rejected under 35 U.S.C. 102(e) as being anticipated by Ellis et al. U.S. PGPub No. 2004/0102931.

1. An apparatus for measuring a state parameter of an individual, comprising a processor;

at least two sensors in electronic communication with said processor, at least one of said sensors being a physiological sensor (Figure 71); and

a memory storing software executable by said processor, said software including instructions for:

collecting a plurality of sensor signals from said at least two sensors (Figure 71); and

utilizing a first set of signals based on one or more of said plurality of sensor signals in a first function, said first function determining how a second set of signals based on one or more of said plurality of sensor signals is utilized in one or more second functions, each of said one or more second functions having an output (Figure 71),

wherein one or more of said outputs are used to predict said state parameter of said individual (Figure 71).

3. An apparatus according to claim 1, wherein said first function recognizes each of a plurality of contexts based on said first set of signals, wherein each of said one or more second functions corresponds to one of said contexts, wherein said first function assigns a weight to each of said one or more second functions based on a recognition probability associated with the corresponding context, and wherein said outputs of said one or more second functions and said weights are used to predict said state parameter of said individual (Paragraphs 0379 – 0383, figure 70).

5. An apparatus according to claim 1, wherein said second functions are regression algorithms (Paragraph 0368, figure 66).

6. An apparatus according to claim 3, wherein said state parameter is caloric expenditure of said individual (Figure 61).

7. An apparatus according to claim 6, wherein said contexts comprise rest and active (Figure 70).

9. An apparatus according to claim 7, said at least two sensors including a body motion sensor, a heat flux sensor and a skin conductance sensor (Paragraph 0382, figures 70, 71).

10. An apparatus according to claim 9, said body motion sensor being an accelerometer and said skin conductance sensor being a GSR sensor (Paragraph 0382, figures 70, 71).

25. A method of measuring a state parameter of an individual, comprising:

collecting a plurality of sensor signals from at least two sensors in electronic communication with a sensor device worn on a body of said individual, at least one of said sensors being a physiological sensor (Figure 71); and

utilizing a first set of signals based on one or more of said plurality of sensor signals in a first function, said first function determining how a second set of signals based on one or more of said plurality of sensor signals is utilized in one or more second functions, each of said one or more second functions having an output (Figure 71),

wherein one or more of said outputs are used to predict said state parameter of said individual (Figure 71).

27. A method according to claim 25, wherein said first function recognizes each of a plurality of contexts based on said first set of signals, wherein each of said one or more second functions corresponds to one of said contexts, wherein said first function assigns a weight to each of said one or more second functions based on a recognition probability associated with the corresponding context, and wherein said outputs of said one or more second functions and said weights are used to predict said state parameter of said individual (Paragraphs 0379 – 0383, figure 70).

29. A method according to claim 25, wherein said second functions are regression algorithms (Paragraph 0368, figure 66).

30. A method according to claim 27, wherein said state parameter is caloric expenditure of said individual (Figure 61).

31. A method according to claim 30, wherein said contexts comprise rest and active (Figure 70).

33. A method according to claim 31, said at least two sensors comprising a body motion sensor, a heat flux sensor and a skin conductance sensor (Paragraph 0382, figures 70, 71).

34. A method according to claim 33, said body motion sensor being an accelerometer and said skin conductance sensor being a GSR sensor (Paragraph 0382, figures 70, 71).

96. An apparatus for automatically measuring a first state parameter of an individual, comprising

a processor (Figure 71);

one or more sensors for generating one or more signals over a period of time, said processor receiving said one or more signals (Figure 71); and

a memory storing software executable by said processor, said software including instructions for:

inputting one or more signal channels based on said one or more signals into a first function having a first output that predicts one or more second state parameters of said individual and either said first state parameter or an indicator of said first state parameter, wherein said first state parameter may be obtained from said indicator based on a first relationship between said first state parameter and said indicator (Figure 71);

inputting said one or more signal channels into a second function having a second output that predicts said one or more second state parameters but not said first state parameter or said indicator of said first state parameter (Figure 71); and

obtaining either said first state parameter or said indicator from said first and second outputs based on a second relationship between said first function and said second function, and, if said indicator is obtained, obtaining said first state parameter from said indicator based on said first relationship (Figure 71).

104. An apparatus according to claim 96, said first state parameter comprising a number of calories consumed by said individual during said period of time (Figure 85).

117. An apparatus according to claim 107, said at least two sensors including a body motion sensor, a heat flux sensor and a skin conductance sensor (Paragraph 0382, figures 70, 71).

119. A method of automatically measuring a first state parameter of an individual, comprising:

collecting for a period of time one or more signals from one or more sensors in electronic communication with a sensor device worn on a body of said individual (Figure 71);

inputting one or more signal channels based on said one or more signals into a first function having a first output that predicts one or more second state parameters of said individual and either said first state parameter or an indicator of said first state parameter, wherein said first state parameter may be obtained from said indicator based on a first relationship between said first state parameter and said indicator (Figure 71);

inputting said one or more signal channels into a second function having a second output that predicts said one or more second state parameters but not said first state parameter or said indicator of said first state parameter (Figure 71); and

obtaining either said first state parameter or said indicator from said first and second outputs based on a second relationship between said first function and said second function, and,

if said indicator is obtained, obtaining said first state parameter from said indicator based on said first relationship (Figure 71).

127. A method according to claim 119, said first state parameter comprising a number of calories consumed by said individual during said period of time (Figure 85).

128. A method according to claim 127, said indicator comprising a first effect on the body of food consumed (Figure 85).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 8 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ellis et al. U.S. PGPub No. 2004/0102931 in view of Eshelman et al. U.S. Patent No. 6,611,206.

In regard to claims 8 and 32, Ellis et al discloses a system comprising multiple sensors that processes multiple types of sensor data to provide an output (Ellis et al. figure 71). Ellis fails to disclose the use of Bayesian classifiers for processing information. However, Eshelman a reference in an analogous art discloses a system comprising multiple sensors that processes information using a Bayesian classifier to recognize objects or behavior patterns in the sensed

data (Eshelman column 4 lines 20 – 52). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Ellis with the Bayesian network processing system of Eshelman, since Eshelman states that the use of Bayesian networks is a known method for recognizing physical objects and behaviors among multiple inputs (Eshelman column 4 lines 20 – 52).

Claims 102, 103, 105 – 109, 126, 126 – 132, and 137 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ellis et al. U.S. PGPub No. 2004/0102931 in view of Townsend et al. U.S. Patent No. 6,834,436.

In regard to claims 102, 103, 105 – 109, 126, and 126 – 132, Ellis et al. discloses a fitness monitoring device that collects information about an individual's activity and metabolic rate (Elis et al. figure 71). Ellis fails to disclose determining the thermic effect of food on the body by determining 10% of the total calories consumed (dividing by .1 as claimed). However, Townsend et al. a reference in an analogous art discloses a personal monitoring system for dieting individuals, and teaches the importance of factoring in the thermic effect of food, calculated as ten percent of the total caloric intake (Townsend et al. column 3 lines 65 – 67, column 4 lines 1 – 67, column 5 lines 1 – 7). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the data processing system of Ellis et al. to determine the thermic effect of food as taught in Townsend et al., since Townsend et al. discloses this factor as an important consideration known in the art for individuals losing weight or maintaining fitness (Townsend et al. column 3 lines 65 – 67, column 4 lines 1 – 67, column 5 lines 1 – 7), and the system of Ellis et al. is used for such purposes.

137. A method according to claim 130, said at least two sensors including a body motion sensor, a heat flux sensor and a skin conductance sensor (Ellis et al. figure 85).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kai Rajan whose telephone number is (571)272-3077. The examiner can normally be reached on Monday - Friday 9:00AM to 4:00PM.

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/Kai Rajan/
Examiner, Art Unit 3736

/Michael C. Astorino/
Primary Examiner, Art Unit 3736

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